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United States Patent [19]

Mertz

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[45] **Date of Patent: Jan. 11, 1994**

[54] **COMPOSITE APPLIANCE PACKAGE**

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[73] Assignee: **Container Corporation of America**, Clayton, Mo.

[21] Appl. No.: **902,850**

[22] Filed: **Jun. 23, 1992**

[51] **Int. Cl.**[5] **B65D 81/02**

[52] **U.S. Cl.** ..... **206/320**; 206/497; 206/586; 206/594; 229/23 R; 229/125.19; 229/918

[58] **Field of Search** ..... 206/320, 497, 453, 586, 206/591, 593, 594; 229/23, 229/23, 125.19, 918, DIG. 1

[56] **References Cited**

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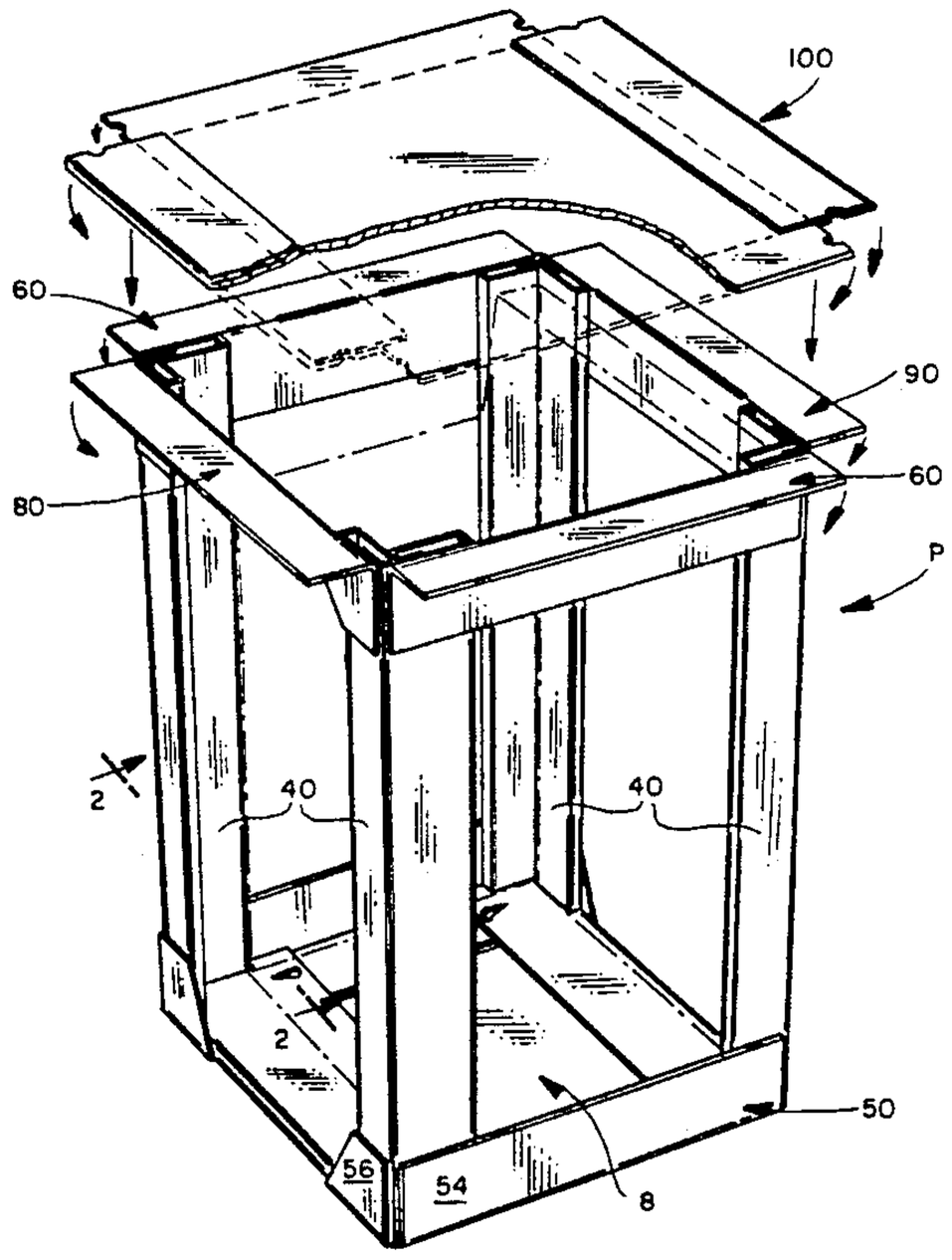
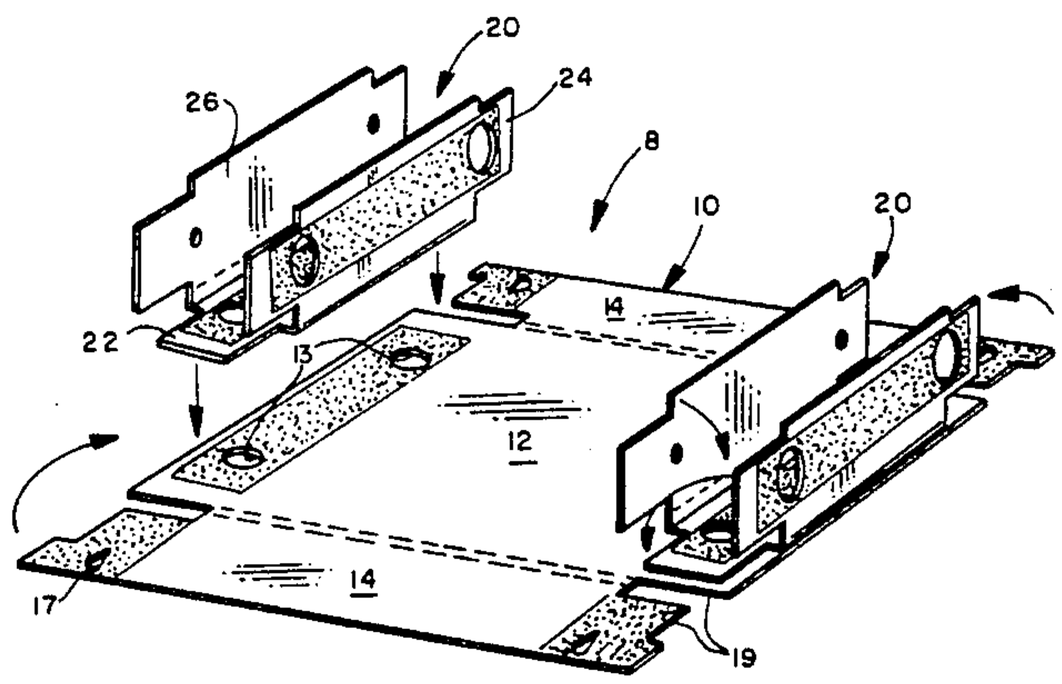
Primary Examiner—Steven N. Meyers
Assistant Examiner—Jacob K. Ackun, Jr.
Attorney, Agent, or Firm—Richard W. Carpenter

[57] **ABSTRACT**

A composite shipping container for packaging, heavy articles and appliances such kitchen ranges. The package includes upper and lower structures interconnected by hollow corner posts and wrapped with plastic film and strapping. The lower structure of the container includes a base member adapted to be attached to a lower portion of the article and bottom corner members attached to the corner posts and to the base members, but which are severable from each other to allow the temporary partial removal of the appliance from the package and its reinsertion without destroying the integrity of the package.

8 Claims, 6 Drawing Sheets





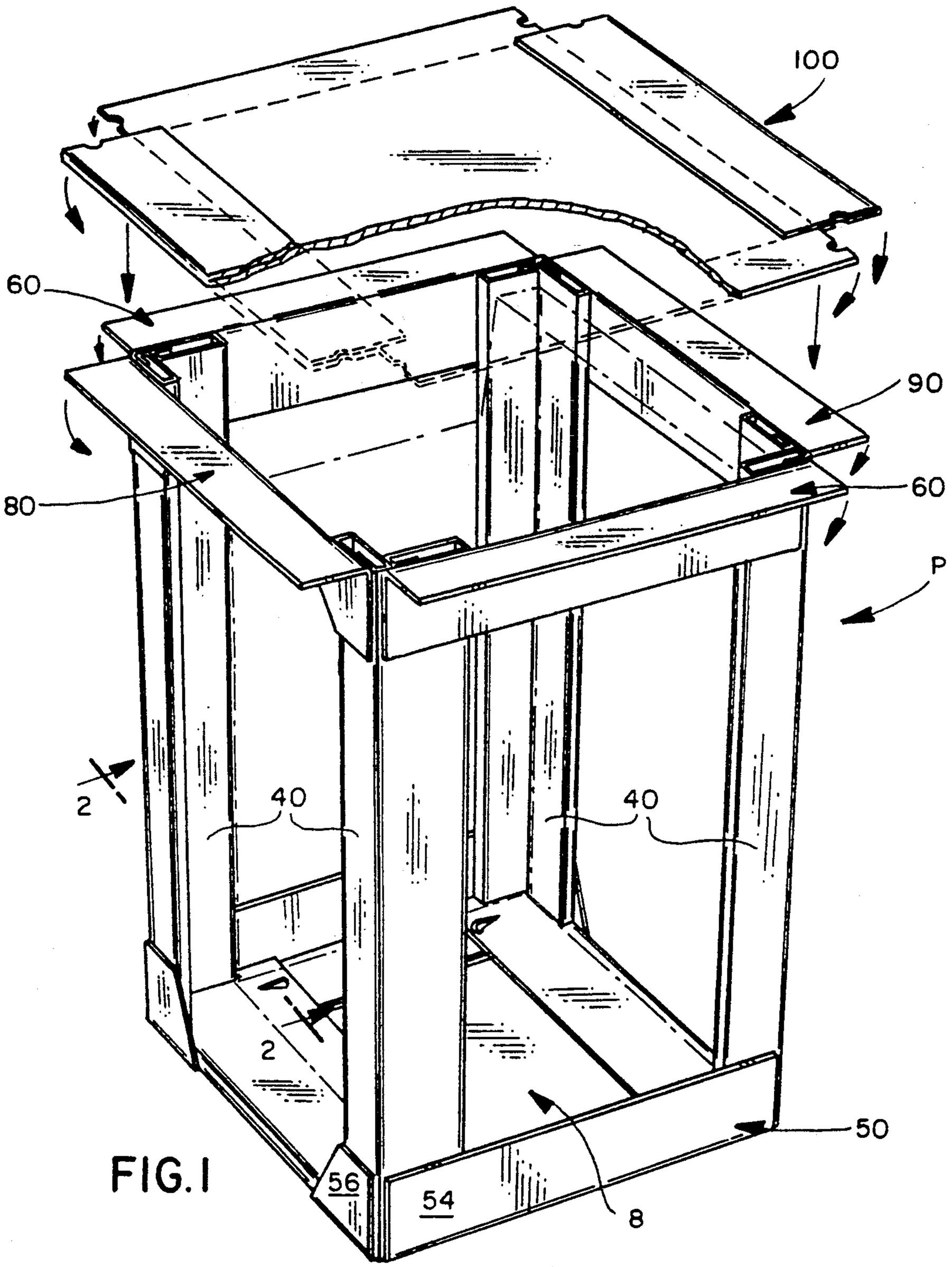


FIG. 1

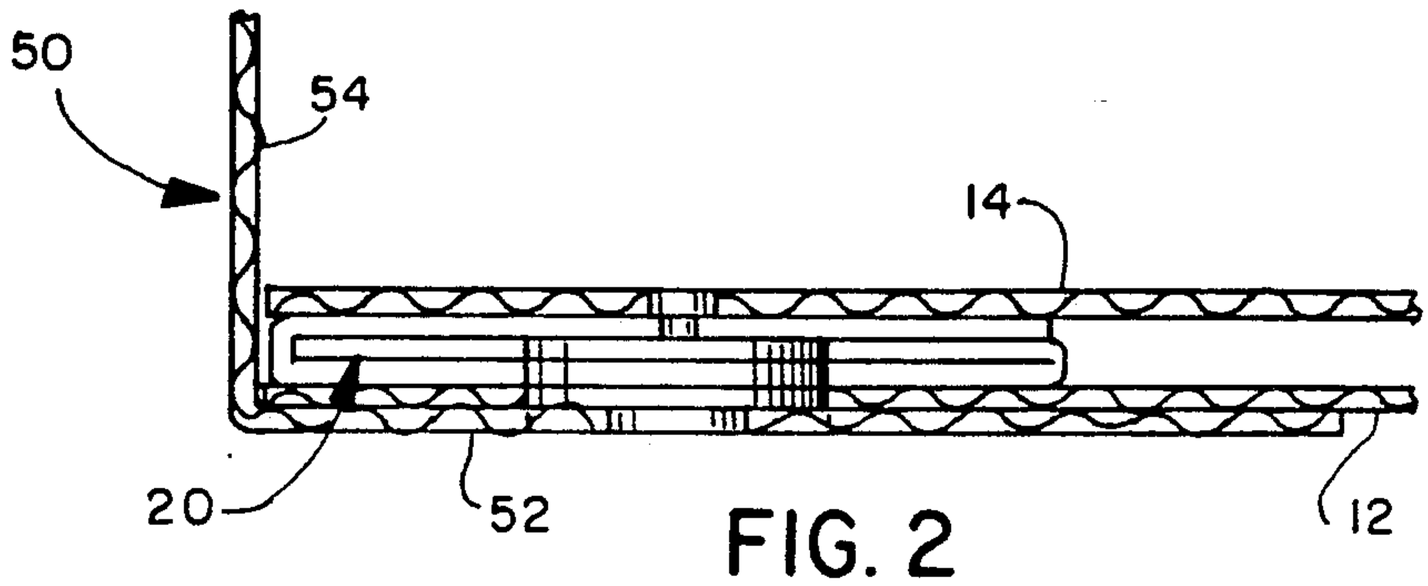


FIG. 2

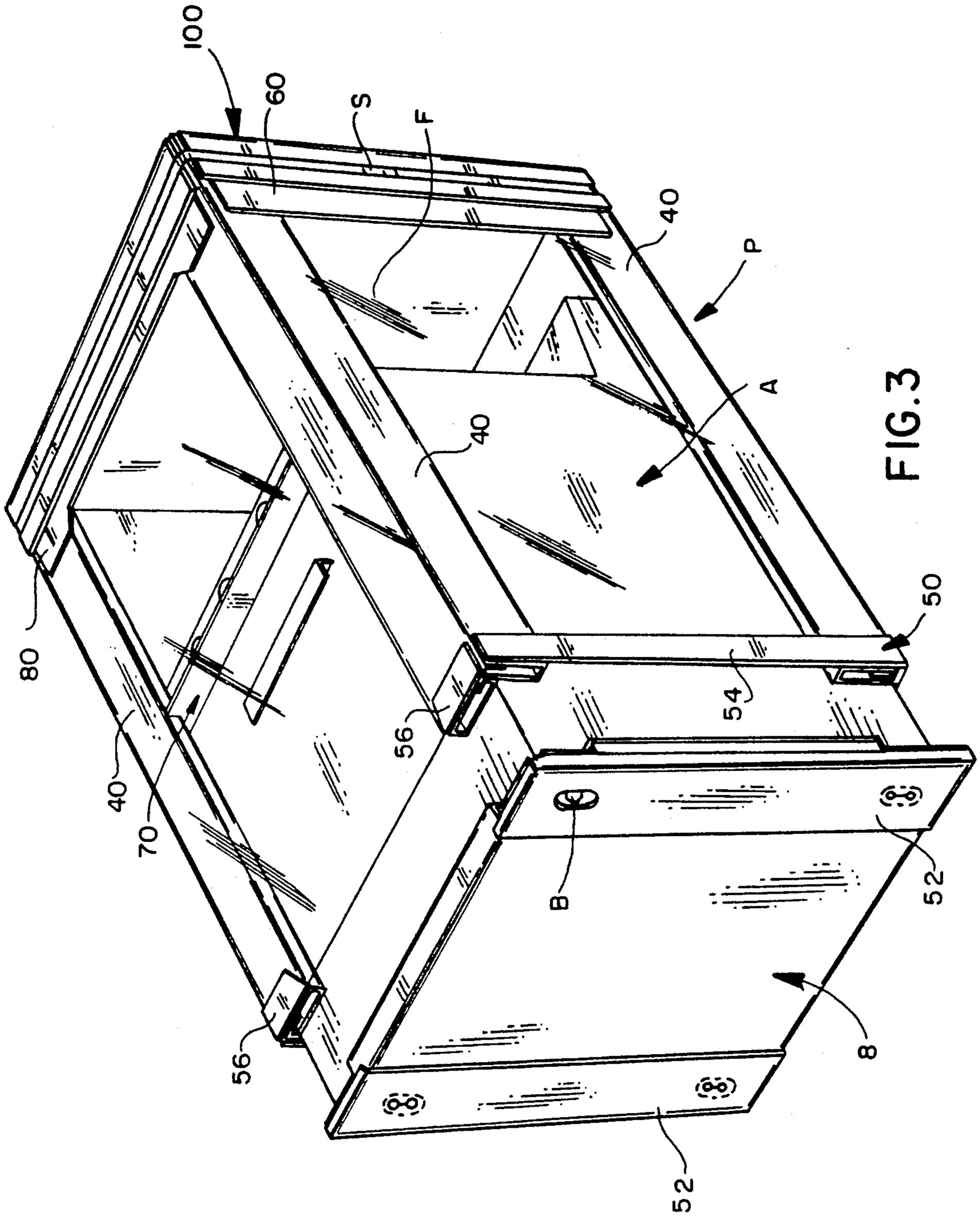


FIG.3

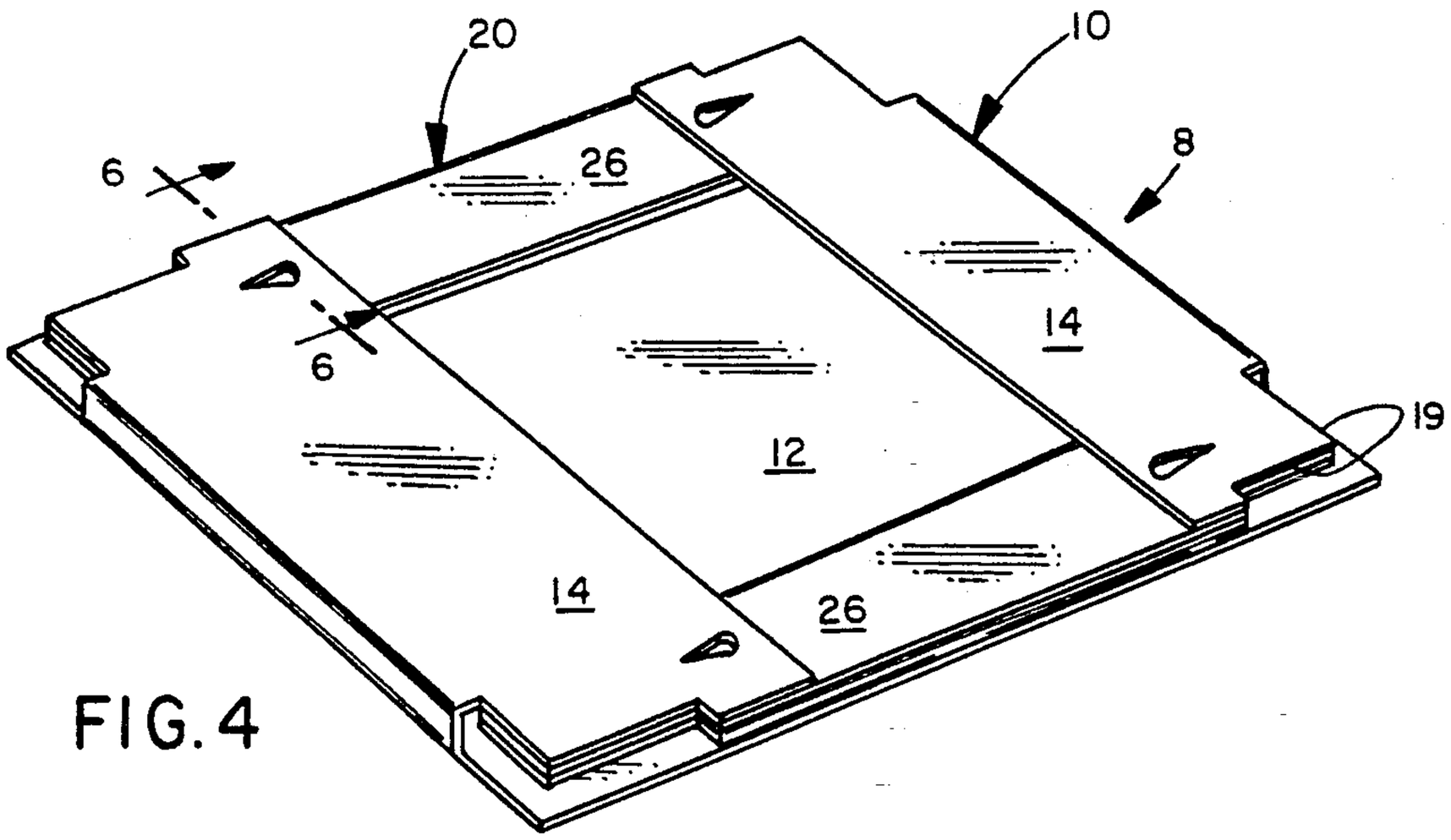


FIG. 4

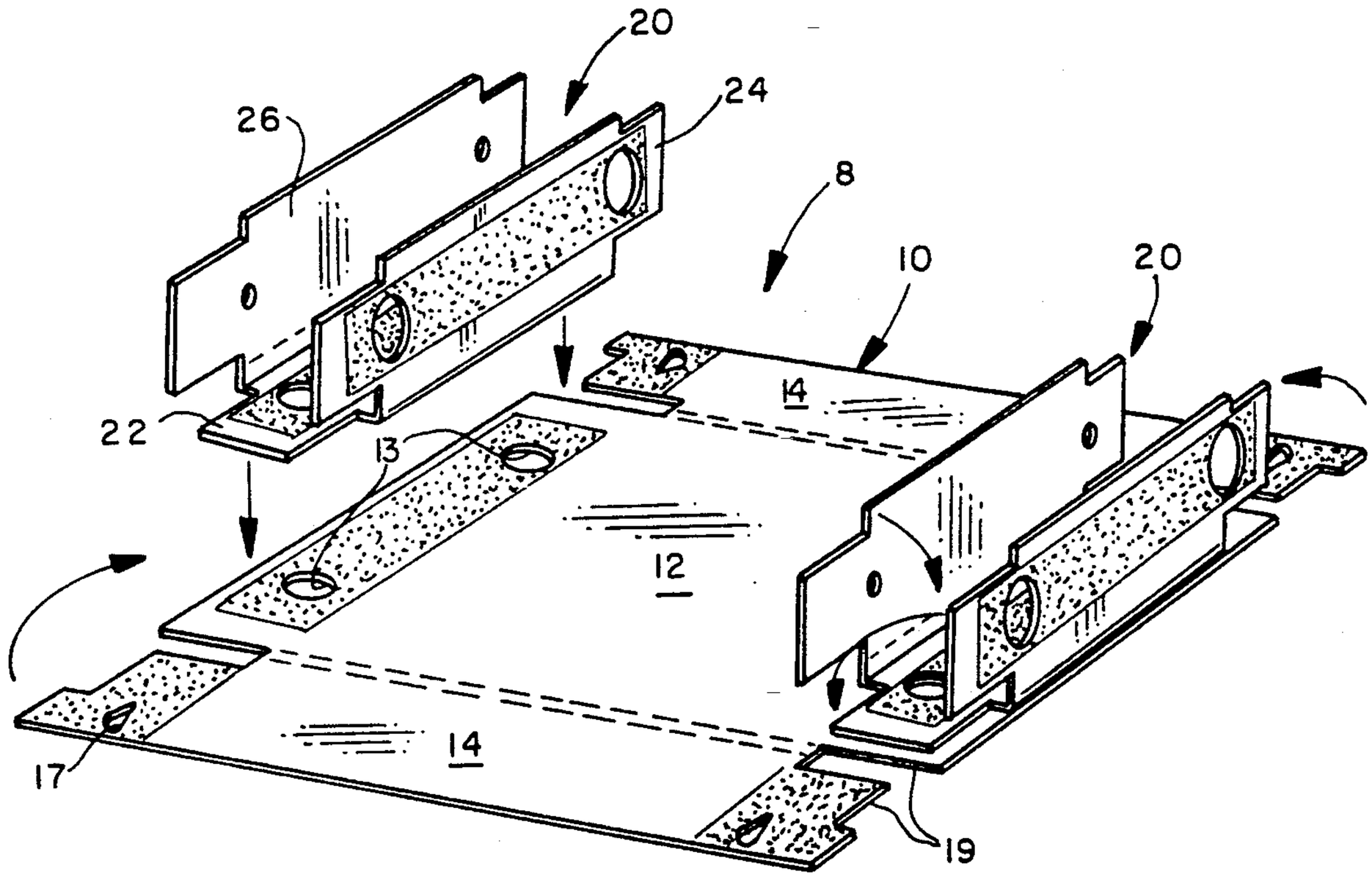


FIG. 5

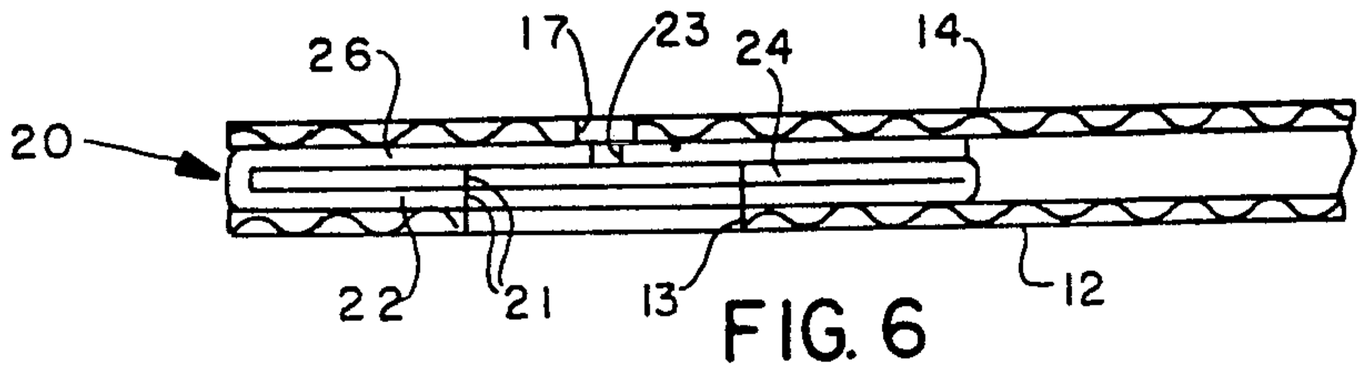


FIG. 6

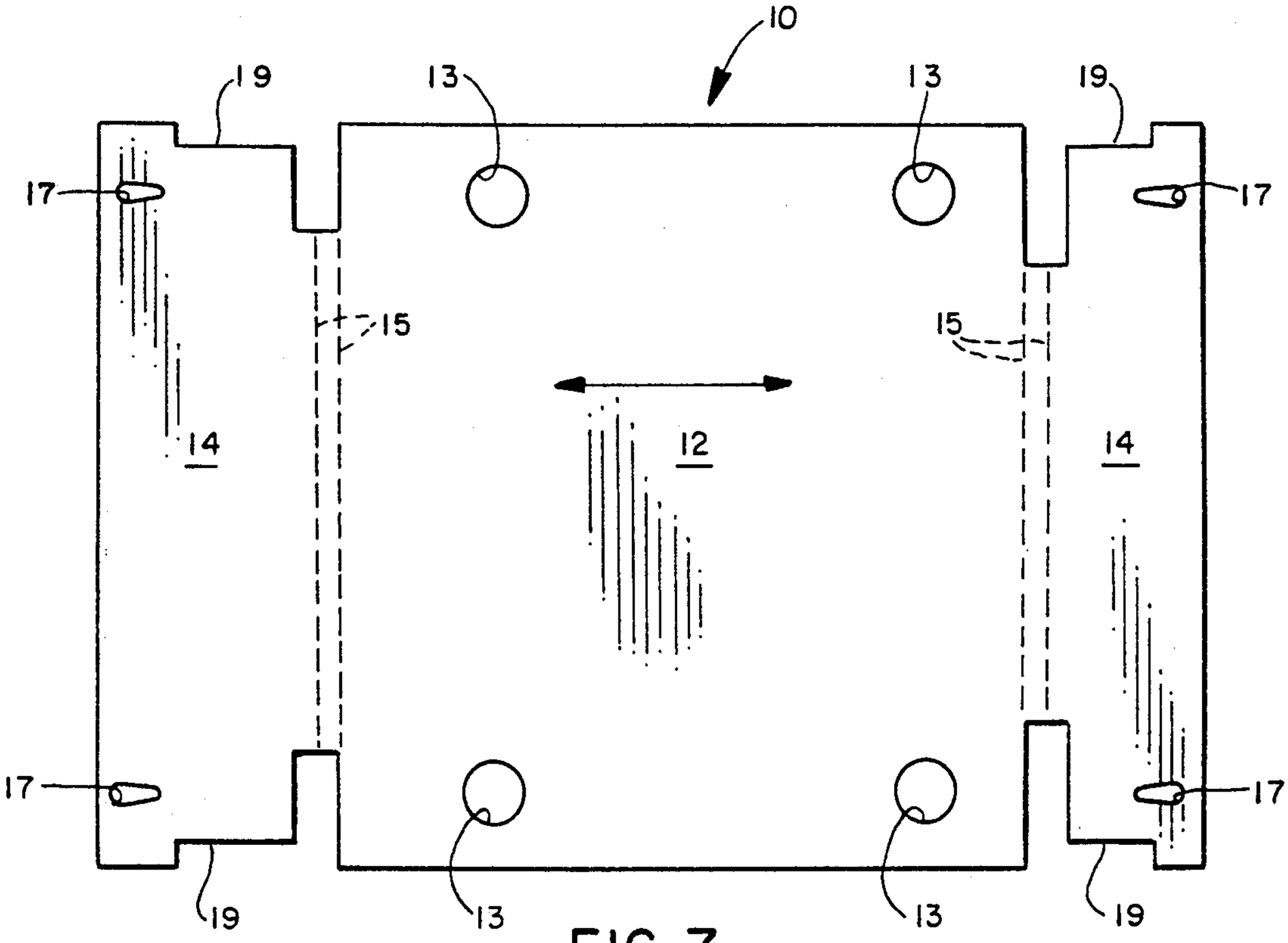

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FIG. 7

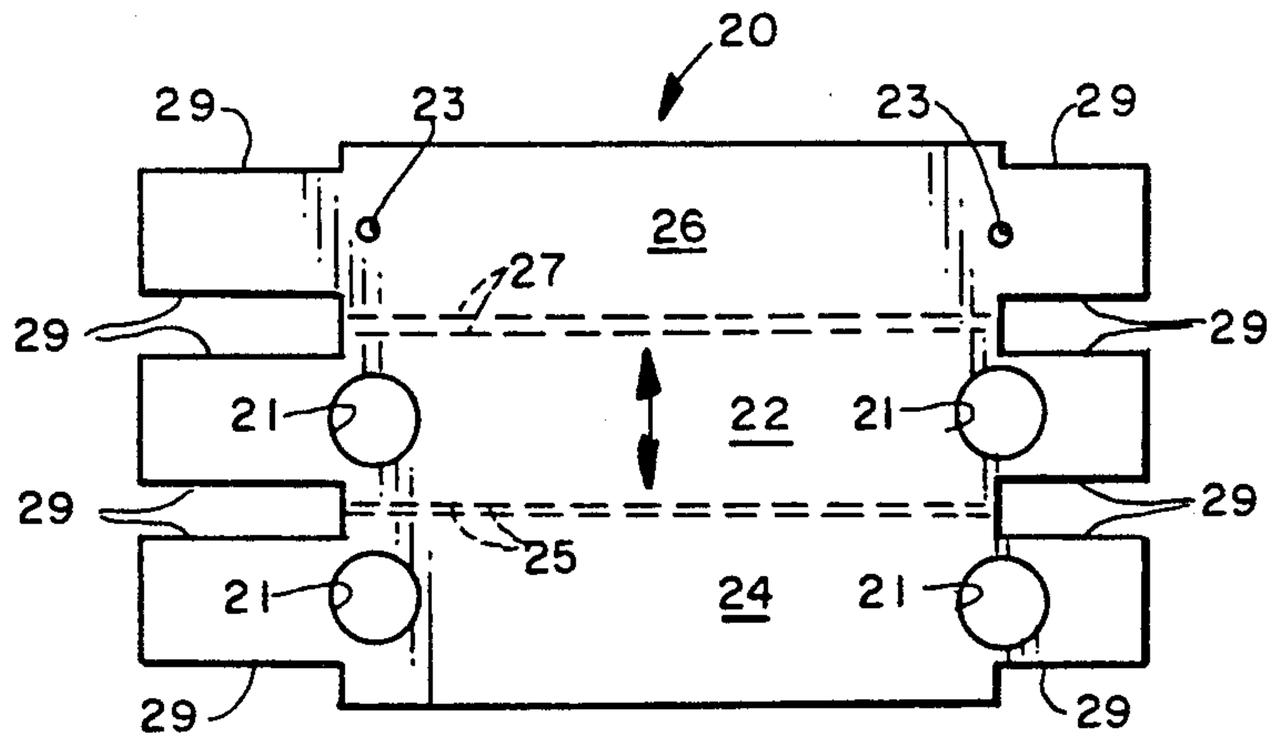
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FIG. 8

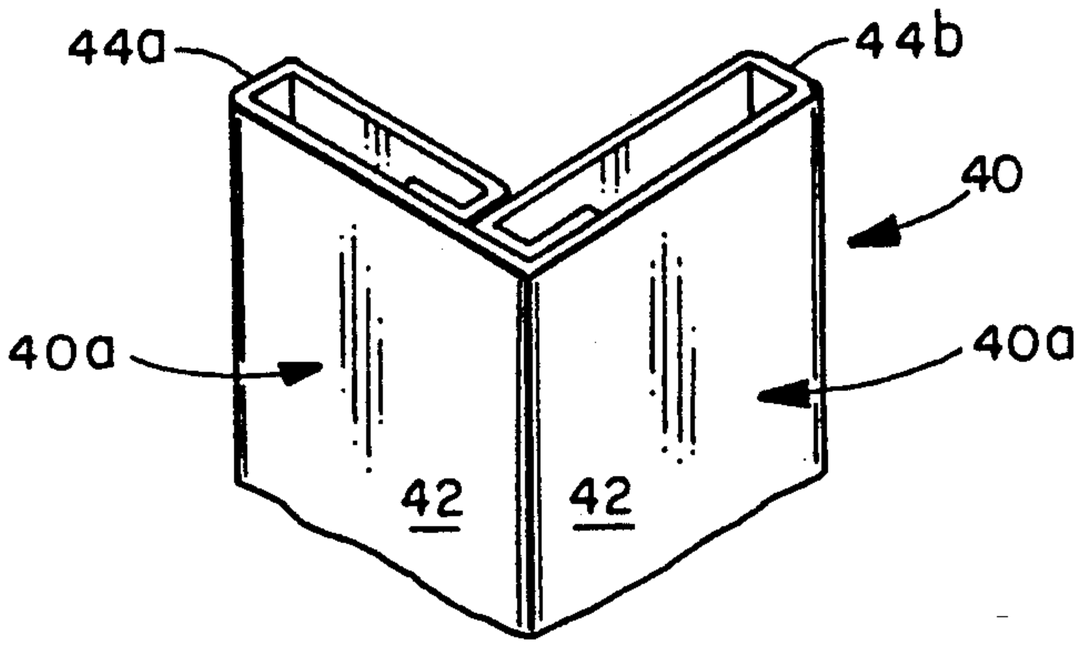

FIG. 9

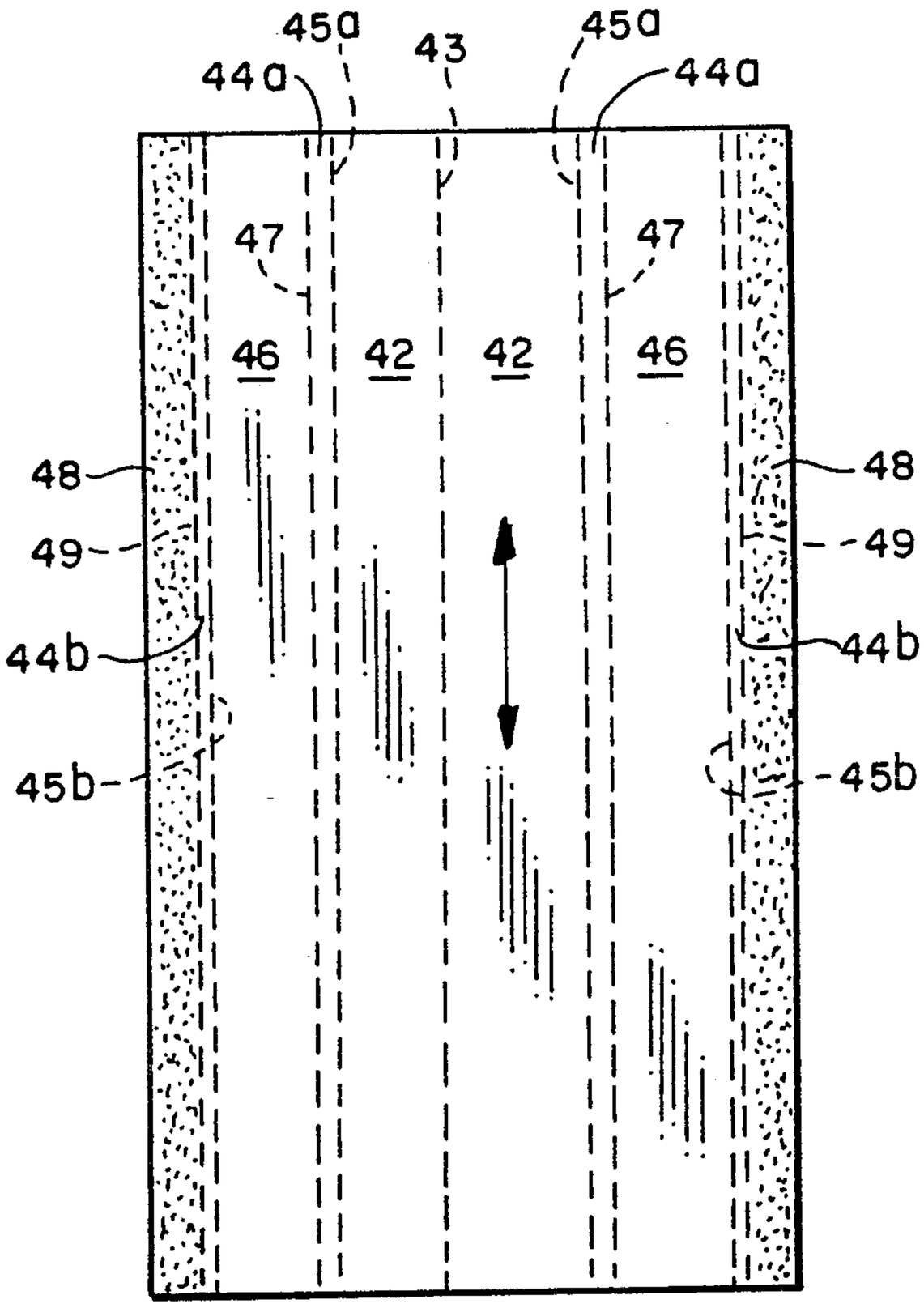

FIG. 10

FIG. 10A

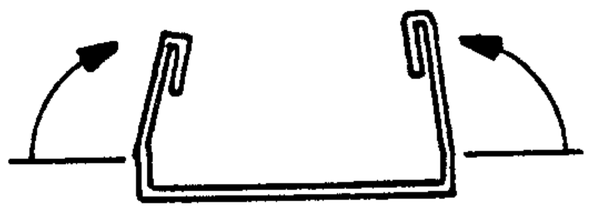

FIG. 10B

FIG. 10C

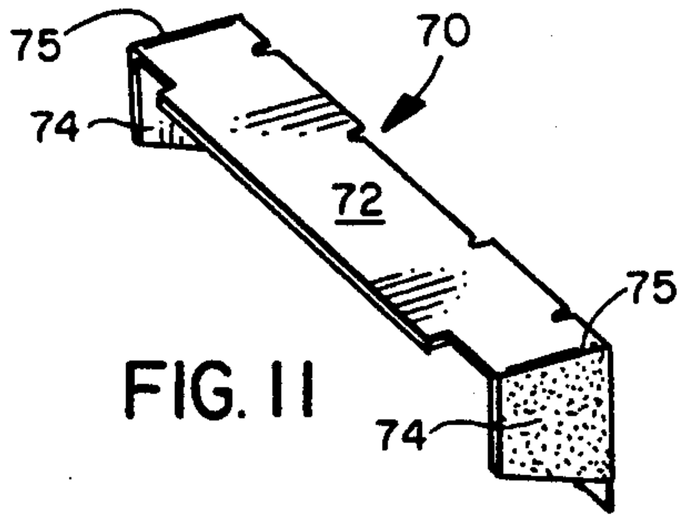

FIG. 11

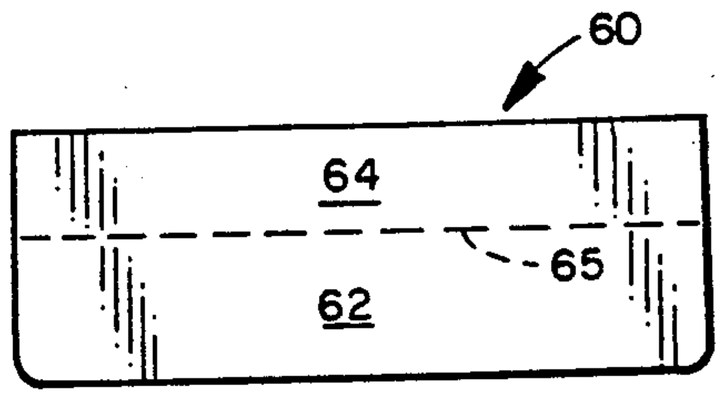

FIG. 13

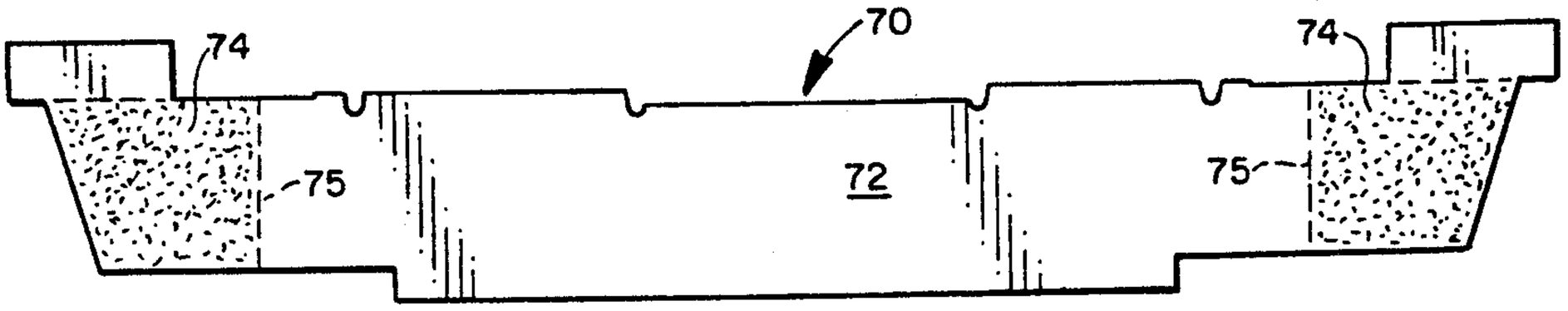

FIG. 12

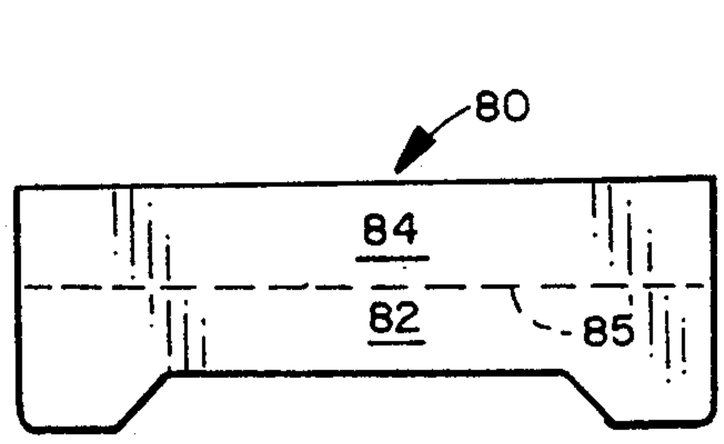

FIG. 14

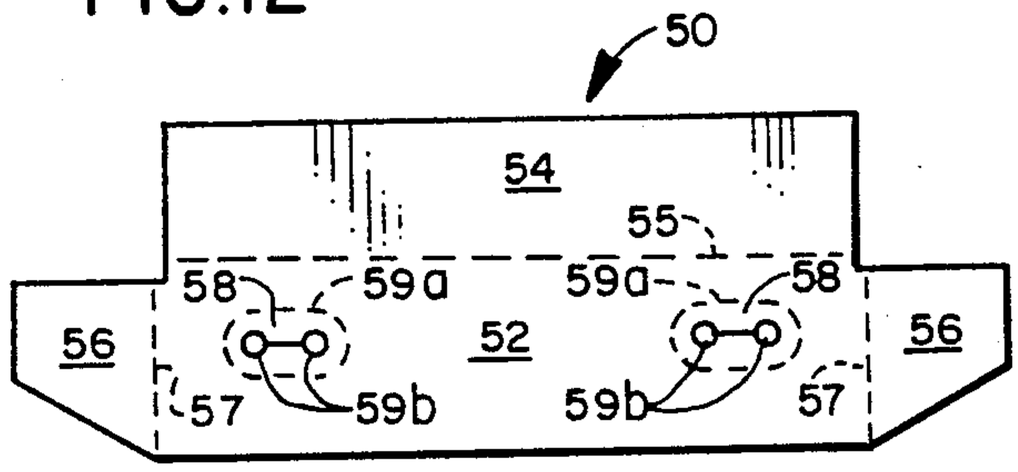

FIG. 15

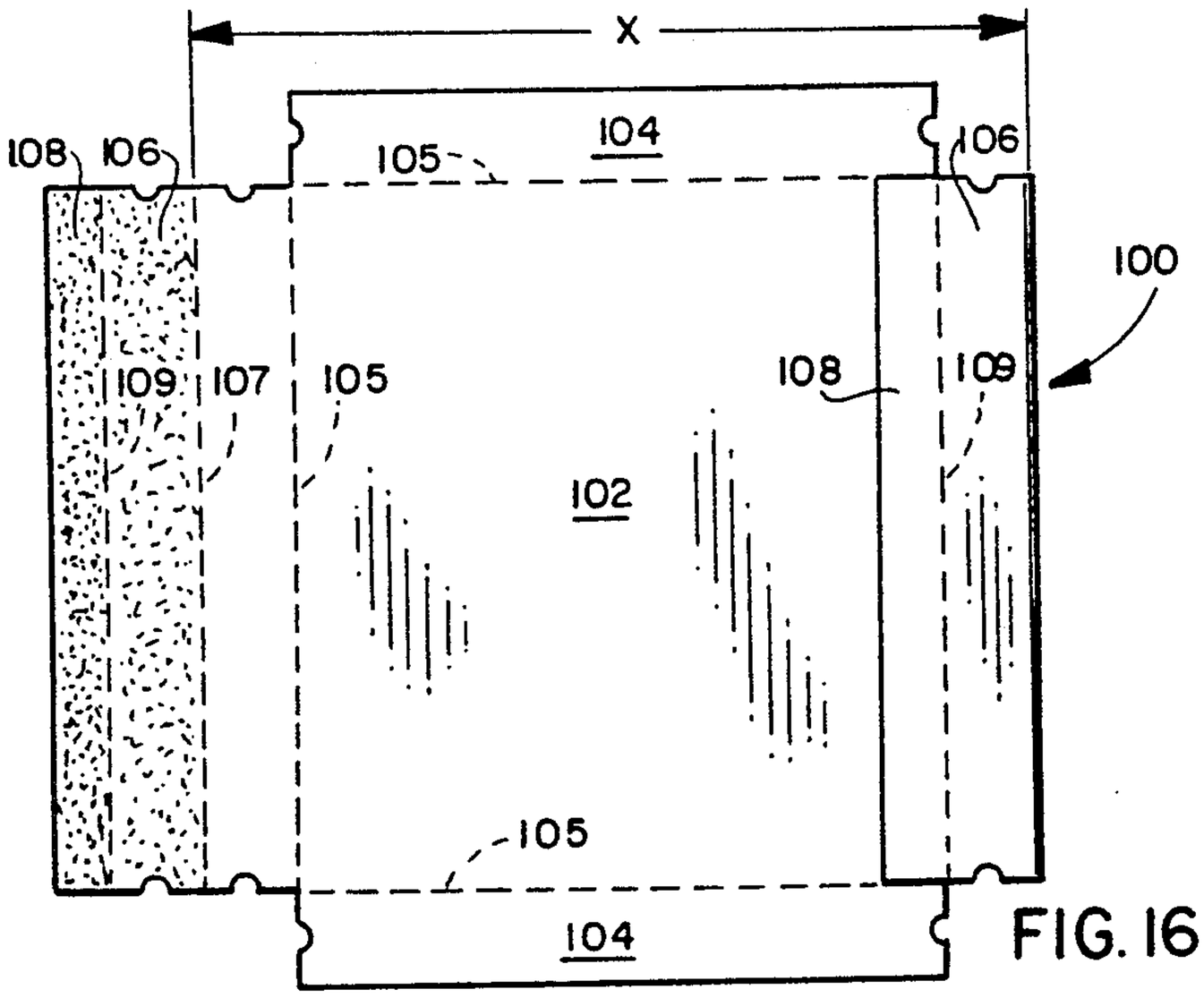

FIG. 16

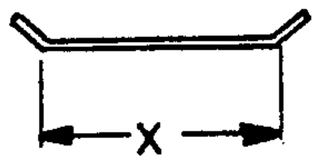

FIG. 16A

FIG. 16B

COMPOSITE APPLIANCE PACKAGE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to composite packages of the type used for the packaging of heavy articles, such as kitchen ranges, and more particularly to a composite package from which a packaged article can be temporarily removed and thereafter reinserted without destroying the integrity of the package.

2. Description of Background Art

A background art search directed to the subject matter of this application and conducted in the United States Patent and Trademark Office disclosed the following U.S. Pat. Nos.

3,504,842	3,648,959	3,666,164	3,675,675
3,891,086	3,907,241	3,934,805	3,992,849
4,226,327	4,224,471	4,331,234	4,378,743
4,390,154	4,467,004	4,502,597	4,762,226
4,771,893	4,792,325	4,798,294	4,811,840
4,865,201	4,881,641	4,919,263	4,947,619
4,969,307	4,986,418		

None of the patents uncovered in the search discloses a composite appliance package comprising paperboard internal components with an outer film overwrap, which package can accommodate the temporary removal of the appliance and its subsequent reinsertion into the package without destroying the integrity of the package.

SUMMARY OF THE INVENTION

It is a primary object of the present invention to provide an improved composite package for the packaging of heavy articles such as kitchen ranges.

A more specific object of the invention is the provision of a composite appliance package that comprises a plurality of paperboard internal components which are secured in position against the appliance by an outer layer of plastic film.

An even more specific object of the invention is the provision of a package of the type described which is adapted to permit the temporary partial removal of the appliance from and its reinsertion into the package, so the appliance can be altered while it is temporarily out of the package.

These and other objects of the invention will be apparent from the following description and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a fragmentary isometric view of a composite appliance package embodying features of the present invention, shown without the packaged article and before the upper end of the package has been closed;

FIG. **2** is a fragmentary vertical cross-section taken on line **2—2** of FIG. **1**;

FIG. **3** is a view similar to that of FIG. **1**, but shown after the upper end of the package has been closed and with the article shown partly removed from the package;

FIG. **4** is a fragmentary isometric view of the base member of the package illustrated in the previous views;

FIG. **5** is an exploded view of the structure illustrated in FIG. **1**, shown prior to complete assembly of the base member;

FIG. **6** is a fragmentary vertical section taken on line **6—6** of FIG. **4**;

FIGS. **7** and **8** are plan views of the blanks of sheet material from which the base member sections illustrated in FIG. **5** may be formed;

FIG. **9** is a fragmentary isometric view of a portion of one of the corner posts illustrated in the previous views;

FIG. **10** is a plan view of a blank of sheet material from which the corner posts illustrated in the previous views may be formed;

FIGS. **10A**, **10B**, and **10C** are end elevational views showing the folding sequence required to form the corner post of FIG. **9** from the blank of FIG. **10**;

FIG. **11** is an isometric view of the door pad illustrated in the previous views;

FIG. **12** is a plan view of a blank of sheet material from which the door pad illustrated in FIG. **11** may be formed;

FIG. **13** is a plan view of the blank of sheet material from which the baseloid flanges illustrated in the previous views may be formed;

FIG. **14** is a plan view of the blank of sheet material from which the front stabilizer may be formed;

FIG. **15** is a plan view of the blank of sheet material from which the bottom corner members illustrated in the previous views may be formed;

FIG. **16** is a plan view of a blank of sheet material from which the top cap illustrated in the other views may be formed, shown with one side of the cap partly assembled; and

FIGS. **16A** and **16B** are end elevational views showing the folding sequence required to form the top cap from the blank.

It will be understood that, for purposes of clarity, certain elements may have been intentionally omitted from certain views where they are believed to be illustrated to better advantage in other views.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to FIGS. **1** and **3**, this invention relates to a composite package, indicated generally at P, of the type generally used for the packaging of heavy articles or appliances such as kitchen ranges.

As best seen in FIG. **3**, package P comprises internal components that include upper and lower structures and corner posts, all of which are preferably formed from foldable sheet material, such as paperboard, and which are held securely in place against the packaged article A by an overwrap of plastic film and strapping.

The lower structure, which is adapted to support the packaged article A, includes a multi-piece base member **8** having a first section **10** and a pair of second sections **20**.

As best seen in FIG. **7**, base member first section **10** includes a generally rectangular center panel **12** through which extend a plurality of holes **13** located adjacent the corners of the center panel.

First section **10** also includes a pair of side panels **14** which are foldably joined to opposed sides of center panel **12** along preferably double scored fold lines **15**. Side panels **14** have, adjacent the ends thereof, recesses or depressions **17**, the purpose of which is to receive portions of the package article.

Also, as best seen in FIG. 7, certain corners of the side panels **14** are provided with generally L-shaped recesses **19**, the purpose of which is hereinafter described.

As best seen in FIG. 8, each base member second section **20** includes a generally rectangular lower panel **22** and also a pair of generally rectangular intermediate and upper panels **24** and **26** which are foldably joined to opposite sides of lower panel **22** on preferably double scored fold lines **25** and **27**, respectively.

Lower panel **22** and intermediate panel **24** are provided, adjacent their ends, with round openings **21**, and upper panel **26** is provided, adjacent its ends, with smaller openings **23**. Also, it will be seen that all three of the base member second section panels are provided with generally L-shaped corner recesses **29**. The purposes of these openings and recesses are described later in the specification.

In order to form and assemble the base member, second sections **20** are positioned on the base member first section at opposite ends thereof with the intermediate and upper panels **24** and **26** folded to overlie each other and the base member second section lower panel **22**. The panels of the second section may be secured to each other and to the upper surface of the first section **10** by an adhesive, as shown in FIG. **5**.

After the base member second sections **20** have been applied to the first section center panel, the first section side panels **14** are folded inwardly 180 degrees to overlie adjacent end portions of second section upper panels **26**. They may be secured by adhesive means to the second section upper panels **26**.

It will be noted that the corner recesses **19** of the base member first section side panels **14** and the corner recesses **29** of each of the second section panels are all aligned with each other to provide relatively deep L-shaped common openings or recesses adapted to receive lower portions of related corner posts **40**.

Extending upwardly from opposite sides of base member **8** are a pair of side members **30**, each of which includes a pair of corner posts **40**, a bottom corner member **50**, and a baseloid flange **60** at the upper end of the side member.

As best seen in FIG. **9**, each of the corner posts **40** is unique in that it comprises a pair of integral, hollow, sections **40***a*, which are each generally rectangular in cross section and which are disposed at right angles to each other to form a generally L-shaped structure.

Referring to FIGS. **10–10C**, it will be seen that each corner post section **40***a* includes one outer panel **42**, foldably joined along a fold line **43** to the outer panel of the other corner post section, a first side panel **44***a*, foldably joined along fold line **45***a* to outer panel **42**, an inner panel **46**, foldably joined along a fold line **47** to first side panel **44***a*, a second side panel **44***b*, foldably joined along another fold line **45***b* to inner panel **46**, and an intermediate panel **48**, foldably joined along a fold line **49** to second side panel **44**.

Although in the present application the base members **8** are shown and described in connection with a particular type of composite package, it should be understood that the base members are unique and are equally suitable for use with other types of packages, and may also be used without any other package.

When the panels of corner posts **40** are folded into erected condition, as best seen in FIG. **9**, the two rectangular sections **40***a* are positioned at right angles to each other to form an L-shaped structure. The corner posts are mounted on the base member **8**, with their lower portions received within the L-shaped recesses at the four corners of the base member.

Each of the side members **30** also includes a bottom corner member **50** which, as best seen in FIGS. **1** and **3**, comprises a bottom panel **52**, a side panel **54**, foldably joined to one side of the bottom panel along fold line **55**, and a pair of end panels **56**, foldably joined along fold lines **57** to opposed ends of bottom panel **52** and adapted to be secured to corner posts **40**.

As best seen in FIG. **15**, bottom panel **52** includes a pair of detachable tabs **58** defined by perforated lines **59***a*. Each tab **58** has a pair of tool receiving openings **59***b* therein adapted to facilitate removal of the tabs from the bottom panel **52**.

When the side members **30** are formed, each bottom corner member side panel **54** is adhesively secured to lower portions of a pair of related corner posts **40**. Later, when bottom corner members **50** are attached to the base member **8**, each bottom panel **52** is folded inwardly and adhesively secured to the underside of base member first section center panel **12**.

At its upper end, each of the side members **30** includes a transversely extending baseloid flange **60** extending between and adhesively secured to the corner posts **40**.

As best seen in FIGS. **1** and **13**, each baseloid flange **60** includes a pair of generally rectangular inner and outer panels **62** and **64**, respectively, which are foldably joined to each other along a longitudinally extending fold line **65**.

When the side members **30** are formed, the inner panel **62** of each baseloid flange **60** is adhesively secured to side surfaces of a pair of related corner posts **40**.

Although the corner posts **40** are shown and described in connection with a particular type of composite package, the corner posts are unique and may be equally suitable for use with a different type of package or without a complete package. They may merely be held against an appliance by one or more bands.

After the base member **8** and the side members **30** have been formed, the article A can be positioned on the base member and the side members positioned against opposite sides of the article. At this point, the remaining upper structure of the package can be formed around the article A.

As previously mentioned, the baseloid flanges **60** are secured to the upper ends of the corner posts at opposite sides of the package. In a similar manner, the inner panels **82** and **92** of a front stabilizer **80** and a rear baseloid flange **90** are adhesively secured to the front and rear surfaces, respectively, of the corner posts **40**.

As best seen in FIG. **3**, a door pad **70** may be positioned between the front of the appliance and the front corner posts.

Although the posts are located between the corner posts and the appliance, they are not attached to the corner posts. The door pad **70**, as best seen in FIGS. **11** and **12**, includes a center panel **72** and a side panel **74** foldably joined to each other along a fold line **75**.

In addition to the baseloid flanges and front stabilizer, the upper structure of the package includes a generally rectangular top cap **100** which comprises a center panel **102**, having first and second pairs of inner panels **104** joined to its opposed pairs of side edges along fold lines **105**, and one pair of outer panels **106**, foldably joined along fold lines **107** to related edges of one pair of inner panels **104**.

The top cap also includes a pair of relatively narrow glue panels **108**, foldably joined along fold lines **109** to adjacent outer panels **106**.

As best seen in FIG. **1**, when the upper structure is formed, the outer panels of the baseloid flanges **60** and **90** and the outer panel of front stabilizer **80** are all folded outwardly 90 degrees to lie in a common horizontal plane.

When the top cap is formed, as shown in FIGS. **16–16B**, the glue panels **108** and related outer panels **106** of the top cap are folded 180 degrees about fold lines **107**, whereby the outer panels overlie the inner panels, and the glue panels overlie the center panel.

At this point the top cap is placed over the corner posts and baseloid flanges, whereby the outer panels of the top cap overlie the outer panels of the baseloid flanges and front stabilizer and can be adhesively attached thereto.

After this has been done, the sides of the package are tightly wrapped with an outer layer F plastic film, which can be either stretch film or heat sealable film.

After the film has been wrapped around the sides of the paperboard components of the package, the outer panels of the top cap and related panels of the baseloid flanges and front stabilizer are folded downwardly against the outer surfaces of the film and corner posts.

The upper structure can then be completely encompassed by a band of strapping S to hold the components against each other and against the packaged article A.

There are, of course, between the outer and inner panels of the flanges, spaces adapted to receive a portion of a lifting device blade, so the package can be handled by conventional lifting equipment.

As previously mentioned, one of the primary features of the package is that it is designed and constructed to allow the packaged article A to be removed from the package and thereafter reinserted without destroying the integrity of the package.

Turning to FIG. **3**, it will be seen that base member **8** may be secured to the lower portion of the packaged article by means of bolts B which extend through holes **13**, **21**, and **23** in the first and second sections of the base member.

After the package has been formed about the article A, as previously described, the bottom panels **52** of each of the bottom corner members can be folded inwardly and adhesively secured to the related bottom surfaces of base member first section center panel **12** and end panels **56** can be secured to the corner posts.

Thus, when it is desired to remove the article A from the package temporarily, the side and end panels of the bottom corner members are severed from the bottom panels, so the article can be pulled out of the package. This can be done either by lifting the package above the article, if it is in the vertical position, or placing the package on its back, as shown in FIG. **3**, and pulling the article part way out of the package to allow the article to be altered or modified.

After the article has been modified, it can be reinserted into the package, and the side and end panels of the bottom corner members can be taped to the base member to secure the lower structure of the package. All this can be done without destroying the integrity of the upper portions of the package.

Also, it should be noted that, if it is desired to remove or alter leveling bolts of the article extending from the bottom of the article, the detachable tabs **58** may be detached and removed from bottom panels **54** of the bottom corner members to afford access thereto.

What is claimed is:

1. In a package for storing and shipping a relatively heavy article, a base member, comprising:

(a) a first section including:

(i) a generally rectangular center panel;

(ii) a pair of generally rectangular side panels foldably joined to opposed sides of said center panel;

(b) a pair of second sections each including:

(i) a lower panel overlying an upper surface of said center panel adjacent one end thereof;

(ii) an intermediate panel foldably joined at one side edge to one side edge of said lower panel and being disposed to overlie said lower panel;

(iii) an upper panel having one side edge foldably joined to another side edge of said lower panel and being disposed to overlie said intermediate panel;

(c) said first section side panels being folded over 180 degrees and secured to upper surfaces of adjacent second section upper panels.

2. A package according claim **1**, and including a plurality of corner posts positioned against outer corners of said packaged article, and wherein said base member is detachably connected to said corner posts by a pair of lower corner members.

3. A package according to claim **1**, wherein each of said bottom corner members includes a side panel adapted to be secured to side surfaces of a pair of said corner posts and a bottom panel having a side edge foldably joined to a lower edge of said side panel and being disposed to underlie and be secured to a portion of said base member, and wherein said bottom corner member side and bottom panels are readily severable from each other, whereby said article, with said base member attached, can be readily removed from said package without destroying the integrity of any other portion of the package.

4. A package according to claim **2**, wherein each of said corner posts is formed from a unitary blank of foldable sheet material, such as paperboard, and comprises:

(a) a pair of elongated, integral, hollow sections, each of which are generally rectangular in transverse cross-section;

(b) said sections being joined to each other along a longitudinal fold line and being disposed normal to each other to form an L-shaped structure adapted to lie against an outer corner of a packaged article.

5. A package according to claim **4**, wherein each of said corner post sections includes:

(a) one outer panel having one side edge foldably joined to a side edge of an outer panel of the other section of said corner post;

(b) a first side panel having one side edge foldably joined to another side edge of said one outer panel;

(c) an inner panel having one side edge foldably joined to another side edge of said first side panel and being parallel to and co-extensive with said one outer panel;

(d) a second side panel having one side edge foldably joined to another side edge of said inner panel and being parallel to and co-extensive with said first side panel.

6. A package according claim **1**, wherein said base member is positioned under said packaged article and removably secured thereto, and wherein said base mem-

ber is detachably connected to corner posts by a pair of bottom corner members.

7. A composite package for storing and shipping a relatively heavy article, said package including a plurality of internal components formed primarily of foldable paperboard, and comprising:

(a) a plurality of vertically disposed corner posts;

(b) a lower structure including a base member and a pair of bottom corner members connecting said base member to lower ends of said corner posts;

(c) an upper structure attached to upper ends of said corner posts and including:

(i) at least one lifting flange extending between certain of said corner posts;

(ii) a cap covering portions of said corner posts and flange;

(d) a sheet of plastic film encompassing side surfaces of said upper and lower structures and said corner posts;

(e) strap means encompassing portions of said cap;

(f) said base member being arranged and disposed for attachment to a lower portion of said packaged article;

(g) said base member and said bottom corner members being arranged and disposed to accommodate the temporary removal of the article from the package and its reinsertion without destroying the integrity of any other portion of the package;

(h) said base member including a first section having:

(i) a generally rectangular center panel;

(ii) a pair of generally rectangular side panels foldably joined to opposed side edges of said center panel;

(i) said base member also including a pair of second sections each having:

(i) a lower panel overlying an upper surface of said center panel adjacent one end thereof;

(ii) an intermediate panel foldably joined at one side edge to one side edge of said lower panel and being disposed to overlie said lower panel;

(iii) an upper panel having one side edge foldably joined to another side edge of said lower panel and being disposed to overly said intermediate panel

(j) said first section side panels being folded over 180 degrees and secured to upper surfaces of adjacent second section upper panels.

8. In a package for shipping and storing a relatively heavy article, a plurality of corner posts and means for retaining said corner posts against outer corners of a packaged article, said corner posts each being formed from a unitary blank of foldable paperboard, and comprising:

(a) a pair of elongated, integral, hollow sections, each of which are generally rectangular in transverse cross-section;

(b) said sections being joined to each other along a longitudinal fold line and being disposed normal to each other to form an L-shaped structure adapted to lie against an outer corner of a packaged article;

(c) a base member positioned under said packaged article and removably secured thereto, said base member being detachably connected to said corner posts by a pair of bottom corner members;

(d) said base member including a first section having:

(i) a generally rectangular center panel;

(ii) a pair of generally rectangular side panels foldably joined to opposed side edges of said center panel;

(e) said base member also including a pair of second sections each having:

(i) a lower panel overlying an upper surface of said center panel adjacent one end thereof;

(ii) an intermediate panel foldably joined at one side edge to one side edge of said lower panel and being disposed to overlie said lower panel;

(iii) an upper panel having one side edge foldably joined to another side edge of said lower panel and being disposed to overly said intermediate panel

(f) said first section side panel being folded over 180 degrees and secured to upper surfaces of adjacent second section upper panels.

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